Genetic Modification

Annually the SAGL screen 10 % of the crop samples to test for MON 810 (Bt maize event) and NK 603 (RUR).

The methodology the SAGL uses is a quantitative enzyme-linked immuno sorbent assay. The SAGL does however not report quantities recorded below the limit of detection and above the value of the reference standards used, the reason being that the methodology can not accurately measure beyond those values. (Please see page 44) MON 810 were found in 91 % of the samples tested and NK 603 in 31 % of the samples tested. (Please note that the crop quality samples received by the SAGL are actually composite samples made up by the silo's or millers per class and grade of individual deliveries.)

Mycotoxins

No Aflatoxin could be detected on these maize samples. A few samples tested positive for Zearalenone and Ochratoxin.

The Fumonisin average was 0,97 ppm and is just lower than the previous season's 1,08 ppm. Eight samples tested higher than 2,0 ppm for Fumonisin.

Deoxynivalenol (DON) was detected in all except two of the samples tested, giving an average of 2,74 ppm. Sixty-two samples tested higher than 2,0 ppm for DON.

Imported Maize

South Africa has imported in total 699 850 tons of yellow maize from Argentina as on 19/01/2007 for the 2005/2006 production season. (Season ends on 30/04/2007.)

During the previous production season the RSA has imported 360 542 tons of yellow maize from Argentina. (SAGIS website.)

The quality data of the imported maize compared to the average quality of the RSA maize of the same class and grade are given on pages 51 and 52.

2005/2006 Imported maize (up to 19/01/2007)

Twenty-two imported maize samples were analysed up to 19/01/2007. Of these maize only one sample graded as YM2 and twenty-one samples graded as Class Other Maize.

The major downgrading factor to YM2 was the high percentage of defective kernels below the 6,35 mm sieve.

Maize downgraded to Class Other Maize were mainly due to the high percentage of pinked maize kernels. Overall the imported yellow maize have high percentages of pinked maize kernels.

The imported YM2 had a hectolitre mass of 75,4 kg/hl while RSA YM2 had an average hectolitre mass of 74,0 kg/hl.

The imported maize have a smaller percentage kernels > 10 mm and have more kernels passing through the 8 mm sieve.

The average protein content and fat content of the imported maize were higher than the average of RSA maize while the RSA maize gave a slightly higher starch content.

These quality tendencies are very simular to the previous season.

The imported maize had an average total Aflatoxin of <1 ppb (µg/kg) with a maximum in a sample of 1,0 ppb. (The 2004/2005 imports gave an average of 1,21 ppb with a maximum in a sample of 11,0 ppb).

The average Fumonisin content of imported maize were 1,61 ppm (mg/kg) with a maximum of 5,70 ppm. RSA maize in that same class and grade averaged 0,54 ppm and a maximum of 2,7 ppm.

RSA maize of the same class and grade this season had a higher average Deoxynivalenol of 2,97 ppm with a maximum of 4,90 ppm. The averages and maximum values of Ochratoxin and Zearalenone between imported and local maize were the same.